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Contesting the Countryside

VAUBAN DID NOT DESIGN VERSAILLES. His king's palace was not a frontier fortress, but both fortresses and palace testified to the mastery of territory, to sovereign power, and to sovereign wealth. Developments of the sixteenth and seventeenth centuries—religious conflicts at home, protracted warfare, and the Europeans' claims to remote colonies—thrust the political rights that inhered in territory into the foreground of Western discourse. Within Europe politics had to be disengaged from religion and concepts of sovereignty refined in the fires of domestic rebellions and civil war; Machiavelli, Bodin, James I, and Hobbes among others, set the uncompromising tone of debate. The stakes of sovereignty, however, were already understood to be broader than power for its own sake. "If no force, no trade," James I's adviser was warned by his ambassador in the Indian Ocean at a moment that early economic writers at home were making clear the converse constraint: if no trade, no force. Maintaining authority whether at home or among rival nations required money.

The analysis of production and trade in the service of the state constituted a body of early economic thought subsequently labeled "mercantilism." Mercantilist writers disengaged economic activity and the logic of markets from general social description or pure political analysis. They did so, however, in the cause of politics. Early political economists, among them Antoine de Montchrestien, the Huguenot writer settled in London, identified national wealth as a dimension of state resources. The riches and production of the kingdom served national power. In effect, mercantilism was a prescription for the economic dimensions of international competitiveness. The idea of a trade-off between what later analysts stylized as "guns and butter," or civilian and military economic goods, was

foreign to this mentality—there could be no butter without guns, fewer guns if there were less butter. Defense or acquisition of land would enhance power and plenty together.[1] Control of sea routes was certainly crucial.

Mercantilist policy advisers focused on the wealth of the state, not its individual subjects, but understood that the two were intertwined. A pauperized populace could not long sustain a strong state. Foucault used the term *governability* to describe the broader mission of ensuring the population's welfare. It supplemented, even displaced, the sixteenth-century stress on sovereignty defined, so he felt, by Machiavelli.[2] Pursuing governmentality entailed nurturing the demographic and economic resources of society to ensure its domestic vitality, whereas the concern with sovereignty arose from the needs of the state as a competitive unit among other states. The national territory remained the physical foundation of both dimensions of state viability. How should it be exploited? The Whig propagandist Daniel Defoe celebrated the bustle and the evident wealth created by trade in his economic and geographic survey of "the whole island of Great Britain,"[3] while other commentators on the continent or in colonies abroad lamented the persistent poverty of the countryside. The debates engaged agricultural proprietors, men of letters, officials, and clerics from Edinburgh to Naples, Buenos Aires, and Virginia to Versailles, Milan, Vienna, Berlin Stockholm, and Saint Petersburg, and all the other towns where a reading public existed. As a group, they debated each other's tracts, sponsored essays competitions, organized societies for agricultural improvement, and wrestled with difficult questions. Supremely aware of European civilizational attainment, men of letters asked how an organized society provided for the urban goods, the legal services, its religious establishment, military and administrative governance, as well as its writers, artists, and musicians. How was surplus to be created, how husbanded, how and by whom appropriated? Why were some societies so much better at generating wealth and surplus than others?

Tackling these questions meant thinking systemically about a national or regional economy, that is, analyzing not just the abstract working of markets, but of a territorial unit that continued through time and supported a political and cultural superstructure. To begin with how could states "see" clearly what productive resources their territories held and how could they decide what tax, property, and labor regimes allowed the

maximum share of surplus to be moved to hard-pressed governments from hard-pressed peasantries? Today's theorists talk about the state's need for "legibility." The great eighteenth-century instrument for achieving it was the property map or cadaster, discussed later in this chapter as a fundamental instrument for administering territory. If land provided the underlying source of surplus, then the conclusion for fiscal policy might be to tax the yield of land and not people or consumption. For John Locke and others, including many who stressed the fecundity of agriculture, land yielded value only when humans transformed it—human labor was at least an equal factor of production; this theory justified the acquisition of colonial land from natives who allegedly did not transform it.[4] The tax consequences of these views had to be different. To tax agricultural products would not discourage the land from remaining fruitful; to tax the laborer might diminish growth. And capital—or "stock" as Adam Smith would call it—might remain the most elusive source of value; indeed, was it a source, or just the residue of prior "parsimony," or even, as Marx would suggest, originally the fruit of blatant conquest and subjection? Whether in the "plantations" or at home, how should one separate the value derived from acreage, whether appropriated by conquest or alleged purchase, from the income to be extracted by political control of those who labored? In theory economic rights had long been separated from sovereignty or political power, just as rights to usufruct or enjoyment of revenues had been separated from ownership of property, whether the owner was the sovereign or his subjects. But territory tended to tangle the political and the economic domains: it provided a common but contested ground.

Vauban Looks Inward

Close to seventy years old, the tireless Vauban turned his gaze from the French frontier he had spent thirty years fortifying to contemplate the economic state of the kingdom. Not that he abandoned his sieges and his ramparts, but the 1690s and first decade of the new century brought bleak years of hardship and misery. Louis's expansionism had prodded his enemies—Holland, the empire, Spain, and Savoy—to coalesce in 1686, and the king attacked preemptively in 1688. The Glorious Revolution of 1689 allowed the Dutch Stadholder and principal organizer of the anti-French coalition, William of Orange, to throw Britain into this war that

would end only in 1697. The ensuing respite of peace would quickly end with Louis's ambition to establish his grandson as heir to the Spanish Habsburg line and led to a new major war from 1701 to 1713. Almost continual warfare only added to the miseries exacted by calamitous cold weather, wretched harvests, soaring grain prices, and local famines in the early 1690s. The revocation of the Edict of Nantes in 1695 provoked the exit of a talented and industrious religious minority. A population that had peaked at 22.45 million in 1690 dropped to 20.74 in 1695, a loss of about 7.5 percent. (These are today's estimates; Vauban believed that the population at the end of the century amounted to more than 19,094,000, but that the country might support 23 to 25 million.) Beggars and the wandering poor filled the roads and crowded the cities' shelters and public bakeries—the visible index of depression and despair.[5]

Paying for the war and helping a depleted country recover became as crucial as defending its borders. Feudal and seigneurial grants had diffused the economic resources of the kingdom—by some theories, contested to be sure, once the property of the king—to the locally powerful for almost a millennium. Not only in France but throughout Europe and in many of the states of Asia. The ancien régime did not yield its rents, tithes, and accumulated privileges easily. Indeed the contest between rulers and magnates led to crisis and revolution throughout much of the seventeenth century and again at the end of the eighteenth century, when the confrontations mobilized democratic spokesmen, as well.

In 1695 Vauban prepared a proposal for a 5 percent general tax *(capitation)* on the income from land, mills, and manufactures as well as royal offices and "rentes." He collected statistics and sketched out a social survey of his native district of Vézelay in Burgundy—underdeveloped and deforested with a peasantry ill nourished, meanly housed, and ill clad. Burgundy's woes prodded him to consider the larger canvas, and in 1700 he began sketching a project for fiscal reform. By 1707 Vauban presented his monarch, also worn down by more than a half century of rule and warfare, his long-worked-over *Projet pour une Dîme Royale,* his proposal for a Royal Tenth, which would overcome economic stagnation, fiscal inefficiency, and the injustices of privilege he felt afflicted his country. As with the idea of 1695, the plan was to replace multiple and uneven taxes—of which the major one, the taille, often exempted the nobility—with a single tax on combined sources of income with no exemptions but graded

to spare the poorer classes of the country. The base rate would be levied at 10 percent of evaluated income, but for agriculture or artisans in times of peace it might be halved. The church would retain its tithing rights, and the notorious salt tax, the *gabelle,* would be moderated. (Not only was the latter tax a heavy burden and a major incentive to smugglers, perhaps most seriously it meant that country families who might have been expected to raise a pig to provide a long winter of pork and bacon could not afford the salt needed to preserve the meat and had to renounce what might have been an easy augmentation of their diet.) Underlying the proposal was a statistical estimate of national income and occupations. Though motivated by frustration at the country's poverty and an ardent reformist search for greater equity and prosperity, Vauban was no revolutionary. He believed in the role of an aristocracy, though one that would be bound closer to state service as in Prussia and Russia and would thus contribute to national efficiency.[6]

Vauban was not alone. His "Project" was sometimes attributed to the similar efforts of Pierre le Pesant, Sieur de Boisguillebert (or Boisguilbert), a Norman noble of the robe long ensconced in the parlament of Rouen who had also called for a 5 percent capitation in his own 1695 treatise, *Le détail de la France; la cause de la diminution de ses biens et la facilité du remède.* Two years later he wrote, "Since creation, it remains unprecedented that a rich nation should lose half its wealth within thirty or forty years without having suffered plagues or wars or any of the other disasters that usually bring countries to their ruin. . . . All landed property has sunk to half its former price." He dated the decline from 1660.[7] Vauban and Boisguillebert both pleaded for a rethinking of national wealth, in terms not just of specie, as favored by Colbert, the finance minister of the 1670s, but national resources more generally. "From all the research I have been able to carry out," Vauban estimated, "in recent times, close to a tenth of the people are reduced to begging; while of the nine other parts, five are unable to contribute to any charity for the first tenth because they themselves are almost as badly off; three tenths are quite strapped [*fort mal-aisées*] and laden with debts, and that among the remaining tenth, including the nobility of the sword and robe, churchmen, upper nobility, high nobility, wealthy merchants, the best-off bourgeois, there are only about 100,000 families . . . and only about 10,000 one might describe as really well-off. . . . The causes of the poverty of the people of this state

are well known . . . it is important to seek a solid means to stop this disorder while we are enjoying a period of peace, which promises, so it seems, to be long-lasting."[8] The last phrase was probably a bit of indirect policy advice, and in any case soon proved to be wrong as Louis headed for war over the impending succession in Spain.

Vauban spelled out the economic and fiscal woes of the kingdom. The real wealth of a country did not consist of gold or silver, but "in the abundance of basic commodities" *(denrées):* wines, brandies, salt, grains, and textiles. France should be a wealthy country. It had a vigorous internal trade and demand for its products abroad; however, the land was yielding a third less than it did thirty or forty years earlier.[9] The working year for most of those employed—allowing for fifty-two Sundays and thirty religious holidays, a quotient of bad weather, perhaps three weeks of illness—was only 180 days, and when children and old people were subtracted, less than half the population was in the active labor force. The fiscal system was a major cause of the economic woes. The major taxes, the tailles, were irregularly assessed, either weighing too oppressively on the hardworking laborer or suspended for the wealthy.[10] Couple this with the abusiveness of uncontrolled tax collectors, the possibilities for evasion presented by the new and useless commerce in bonds—particularly bearer bonds that could not be traced—and the impoverishment of districts and families by years of warfare, and one could sense that the capacity for military exertions had reached its limit. Vauban took continuing and expensive warfare as a given. But with reform he believed that France would be wealthy enough to sustain it. Clear out the army of collectors, take away the greatest privileges, eliminate the pervasive venality and corruption—most interesting, perhaps, divide the territory into equal-size districts in which a sort of military fiscal police would visit families four times a year to ascertain wealth and assign tax burden—a system he believed the Chinese and Mughals followed—and a vast improvement would ensue. "The establishment of the royal tenth seems to me the only means capable for providing a real recuperation for the kingdom and that which can most add to the glory of the king and most easily augment his revolutions."[11] He indulged in a rosy conclusion: "Poverty will be banished from the kingdom; we will no longer see city streets and the major roads filled with beggars . . . commerce from province to province and city to city will be reinvigorated with no internal taxes or

customs . . . commodities will be abundant and will facilitate international commerce, and since the people will cease to be in the impoverished state they are now it will be easier to find the necessary help for the fortifications of the frontier, the public works of the sea ports, the safety of the coasts . . . for the work needed to make rivers more navigable, to drain the swamps, to plant forests or clear them where they are overgrown, and finally to repair the great highways."[12]

Vauban thus went beyond the immediate fiscal emergency to raise perhaps the most perplexing inquiry of all: What quality inherent in resources or what activity imparted "value," whether the value arising out of a single transaction, or the value that increased over time? The economists on both sides of the Channel—in continual dialogue—and in all centers of learning, wrestled further with the distinction between value and price; these seemed intimately related but were not the same, so how did they differ? And the question of value was easily conflated with the issue of surplus, the economic product created that exceeded the subsistence needs of the population. Surplus could become "capital" to produce further surplus or it might be claimed by ecclesiastical or political authorities to cover the costs of war and administration—the latter of course including ostentatious display and the interest payments to those who might lend rulers the surplus they controlled. But no matter what its use, how was it generated? What was its source?

Did the devoted public servant believe that his elegant plan had a chance? In the event, court officials suppressed the tract (which did not impede its circulation) and rejected its proposals out of hand. Vauban died of pneumonia a month later. His reforms took for granted the existence of a stratified and largely agrarian society, but assumed it could be made more rational. Distinction and privilege, however, remained its very marrow. The grand monarch had reduced the corporate power of his nobles, but he remained entrenched in an institutional structure dependent on exemptions and tradition. At the same time across the Channel, the British were mobilizing their national wealth for the Whigs' and Orange war efforts with a different approach; they arrived at an oligarchic consensus that accepted self-taxation and created a national credit system through the through the Bank of England, which gathered the surplus from an expanding commerce by promising secure returns.[13] Vauban's

plan distrusted bearer bonds as instruments for tax evasion and looked to the product of the land. Ultimately he put his faith in the massive fixity of the national space, its frontiers rendered inviolable, its interior the source of its wealth. The elements of this vision were to recur again and again as a fundamental territorial alternative.

Vauban's was a reform too far—a proto-Enlightenment tract for a society rife with extremes of wealth and poverty, replete with intellectual luster but institutional sclerosis. (France would impose a *dixième* in 1710, suspend it in 1717, reimpose it during wartime again in 1733, suspend it with peace, reintroduce it in 1740, and keep it in place, but based on outworn assessments and considered as an exceptional expedient for wartime. Still, it would remain the model for a single tax based on the value of land.) Vauban gave little thought to the conditions that enhanced agrarian output except insofar as they were impacted by taxes. More general approaches to increasing the output of the land would have to await later reformers, all of whom, however, saw an important relationship between government policies and agricultural output. Issues of agricultural productivity were critical for the councilors of the Kangxi and Qianlong emperors, for the Austrian cameralists, Tuscan and Neapolitan reformers, the Spanish Bourbon ministers of Charles III, the French reformers and *Économistes* who felt themselves part of Turgot's ministerial team in the mid-1770s, the ambitious samurai administering the outlying daimyo domains in Tokugawa Japan, and the British governors of Bengal.

Spatial knowledge (what Germans have termed *Raumwissen*) became the prerequisite for rationalizing state resources.[14] Ultimately within preindustrial societies—even those with an active commercial or manufacturing sector or those with access to bullion—state revenues had to be claimed from those who worked or controlled the land. The extraction of resources thus required imagining a new connection between the land and its peasantry. Reformist policy makers developed an implicit agrarian constitutionalism. By the mid to late century, they were to envision a class of peasant producers as well as landlords who would respond to market incentives—freer prices, labor mobility, and finally the removal of restrictions on acquisition and sale of land. Even when a significant share of their own states' wealth benefited from a robust offshore slave market, Western agrarian reformers came to decide that the productivity

of their domestic peasantry would go hand in hand with their development as citizens. Political rights should correspond to economic responsibilities; civic capacities would mature with agrarian development.

A Century of Cold and Conflict

However, such a connection lay a century in the future. After a late sixteenth-century era of relative affluence, scarcity and the struggle over resources rapidly darkened politics across many global societies. Colder weather—the "little ice age"—seems to have characterized global climate for much of the seventeenth century. It arrived after a widespread period of affluence in the late sixteenth century. The historian Geoffrey Parker has magnificently followed its global ramifications in all their terrifying detail: crop failures; excess mortality; wars and insurrections in which civilians were routinely raped, plundered, and brutally murdered; massive population losses across the globe. Plague struck Spain in 1598–1599, Milan in 1600, again in southern Europe at midcentury and England a decade later; flooding and famine were endemic.[15] For Marx, looking back from the mid-nineteenth century, it was the nodes of commerce, the urban incubator of the bourgeoisie, that threw feudal society into crisis. But even without the generation of a new class motivated by the circle of commercial profits and investment, early modern agrarian states faced characteristic resource constraints and an abiding set of what Marxist analysts would call "contradictions."[16] Hard times stuck unevenly, of course, but the European evidence is of widespread misery. Falling grain prices meant not well-fed town workers but miserable peasants with higher real rents, taxes, and interest to pay; a depressed market for urban or rural products; and depopulation of the countryside. In France the average temperatures fell 1.3 degrees Celsius in the last fourteen years of the century relative to the previous decade, which meant a fortnight's delay in the harvests. The year 1692 was particularly cold, 1693 particularly wet.[17] Spain seems to have shared its neighbor's meteorological fortunes: It suffered famines in demographic crises in 1630–1632, 1647–1652, and 1684, followed by the tribulations of seventeenth century wars that prompted Vauban's reflections.

Developments in East Asia ran in sync. By around 1600 population had nearly tripled in Ming China while New World silver provided liquidity

for a vibrant economy, characterized, as is the case with our contemporary era, with sometimes staggering inequality.[18] But this highly developed civilization was hardly immune to ecological and political catastrophe. In the upriver regions that drained into the Pearl River delta the economic and ecological balanced became more vulnerable by the middle third of the seventeenth century. Han Chinese peoples and the Ming state had pressed other, once predominant cultures to the margins. The new settlers farmed more intensively, cleared the forests, watched the silt wash downstream to fill in much of the delta, and led, in the judgment of Robert B. Marks's environmental history of South China, to "the shattering of the biological old regime." The Manchu invasions and the clamorous collapse of the Ming order culminated the misery: population in the south China region declined until the 1680s, and "the 40-year period beginning in 1644 was one wrought by crisis: civil war, banditry and piracy, peasant uprisings, trade dislocation, and declining harvest yields caused by colder temperatures all combined to make life in those years uncertain at best, unlike any that had preceded or followed."[19]

Historians have often been cautious about confirming a general crisis of the seventeenth century: the profession specializes in the careful chipping away at earlier generalizations.[20] Nonetheless, it is hard not to read the accounts of violence, impoverishment, hunger, and rebellion that afflicted so many regions without believing that systemic difficulties were involved. To be sure, some regions remained more exempt than others or experienced their hardship on a different time scale: seventeenth-century Japan was recovering from earlier civil war although brutally suppressing Christian inroads; the Mughal dynasty was continuing to construct an opulent state. Still, even where climatological shifts seemed minimal, the agrarian empires and monarchies faced institutional bottlenecks. Tax efforts in France had helped trigger the Fronde. Madrid's Minister Olivares's "Union of Arms"—an effort to extend the tax burdens from Castile to Aragon—provoked revolts in Catalonia, Sicily, and Naples, and royal tax decrees ran into the entrenched opposition of the wealthy local families in Peru and Mexico.[21]

The Ottoman Empire, so feared and successful through Süleyman's reign, faced military setbacks on the Hungarian frontier and against the Iranians, as well as a long-standing disintegration of the timar system of supporting its frontier armies. The timars were the smallest fiefs, each a

collection of villages that could support a cavalryman (sipahi), his military equipment, and a couple of retainers. Originally at the disposal of the sultan, who in theory held ultimate ownership over the land, by the 1530s timar holders had become in effect a hereditary class.[22] As siege warfare and handguns spread, infantry became more crucial, cavalry more dispensable. The urban infantry, the Janissaries, played a larger role; the Ottoman cavalry played less of one, and the sultan had to find sources of income to pay for larger infantry forces. In general, armies based on assigned but revocable fiefs became harder to support—whether composed of soldiers who lived on their fief as did the sipahi, or were just assigned earmarked revenues, as provided by Mughal jaghirs. Peasants were fleeing the harsh burden of taxes and dues; commanders came with depleted units. Conservative reformers lamented the decline of an inherited caste; "the rational graded meritocracy constructed by the Ottomans was shaken from top to bottom. The pursuit of personal interest, vital to survival during the inflation episode, became endemic in Ottoman life thereafter."[23] "When it is a question of service on campaigns," wrote one reformer in a memorandum for Sultan Murad IV in the early 1630s, "not one man appears from ten timars, but at the time of tax-gathering, ten men dispute one timar."[24]

The decay of the timar system necessarily impacted the agrarian relationships on which it rested. The government absorbed many of the prebendal incomes and in return allowed its burgeoning officials, and not just landholders, to collect taxes and become quasi-private owners, a process to be completed after the land law of 1858. Officials and timar holders converted their holdings into *wakfs,* or fiscally privileged religious foundations, with themselves as trustees and beneficiaries. Whereas earlier the military class had, in effect, structured the agricultural relations of the countryside and mediated between state and peasantry, a new network of rent collectors now prevailed. The long Candian war with Venice to control Crete (1645–1669), disastrous for both sides, made the process even more relentless. Peasants in southeast Europe might flee to Hungary or Ukraine and the towns. There was both a shortage of agrarian labor and many men with no land; share tenancy *(métayage)* came to prevail, as did peonage. When peasants fled, those who remained behind remained co-responsible (along originally with the timar holder) for the tax deficiencies.[25] Collective responsibility and sharing remained also in India,

certainly in Russia, and in Mesoamerica. It probably mitigated the catastrophes that could fall to individual family homesteads—the village had to provide subsistence—but it also limited the incentives for growth.

As with the other agrarian systems of the global old regime, the tug-of-war for revenue was endemic in the system even when states and empires were not at war. The great Emperor Akbar (ruling 1556–1605) sought to stabilize government levies in cash at one-third of the imputed revenue from village agriculture, although collectors were authorized to encourage agrarian development by reducing assessment rates on high-grade crops or extended cultivation of land. By the time the British took over the financial authority of Bengal with its power to tax—the *diwani*—from the Mughals a century later, the state quota had climbed to 50 percent. The actual annual levy was determined by a negotiation between the headman of the village (or villages grouped in parghana) and state officials or the proliferating local intermediaries, the zamindars—with all parties seeking to collect and retain as much as the system might bear. The results were harsh: if the initial monetary assessment decreed by royal collectors on reserve lands was contested by cultivators, the officials could impose direct levies of the crop, so-called sharing and measurement. Peasants agreed to a tax for one year at a time; wives and children of defaulters could be sold into slavery; a bountiful harvest in which prices plunged could mean not a boon but a hardship for the peasants, who had to settle rents and taxes in cash. The regime encouraged expansion of cultivation, but peasant labor was scarce, and abandonment of overburdened land became a serious problem. By the second half of the seventeenth century, so Colbert's emissary Francois Bernier reported, much of the Mughal territory was "badly cultivated and thinly populated and even a considerable portion of the good land remains untilled from want of cultivators.[26]

Aurangzeb (ruled 1658–1707), contemporary of Louis XIV and the last of the great Mughal emperors, dissipated his wealth in decades of warfare in the Deccan. New conquests that might be used for feudal assignments (jaghirs) became scarce at the same time as the lines of authority over the villages became muddled as centralized authority in the north broke down. The claims of ownership were often fragmented or parceled: village headman, tax farmers, zamindars, and others came to be known as holding dependencies. Under these conditions, it could become a

burden for an official to receive an assignment of village revenues rather than an income paid directly. Inside the village collective obligation and rights might protect individuals, but they reduced incentives to expand the arable land.[27] As one of the most informed British experts summarized later, "The village as a unit stands [at the end of the eighteenth century] . . . exactly where it stood at the time of Aurangzeb, the revenue due from it being assessed, usually for the year, at a lump sum of money, fixed with reference to its productive capacity, and intended to represent ordinarily half the gross produce, but not distributed by the assessors over the individual peasants." Peasants sought to conceal their wealth, and the village was caught in a "barren struggle" to divide the rural product rather than a concerted effort to increase the annual produce of the country.[28]

India's "feudal" crisis grew more intense as the eighteenth century continued, but elsewhere after 1720 many societies seemed to ascend to a plateau of renewed prosperity and, if not peace, at least a diminished destructiveness of warfare—exception made for the African polities that bore the demand for increased slave labor. The populations of China and Europe increased as the climate seemed to warm after the mini–ice age of the previous century. More slaves could be transported to the colonies, more staples were shipped from the colonies to Europe, a vigorous sea trade obtained between Asia, the Americas, and Europe. The new calorific products of Africa and the Americas—yams, sweet potatoes, maize, potatoes—added to traditional grains, and rice quickly produced populations of much higher density.

International relations still exacted heavy demands on state and territorial capacities. Internal violence abated, but competition between states did not ease and neither did the fiscal pressure on them. Wars were less brutal but no less costly; they required larger armies and navies and more supplies. They surged anew in Eastern and Central Europe and in the distant colonial holdings. The Indian peninsula remained embroiled in continuing conflicts at the southern and eastern edges of the Mughal realms, now contested by Europeans as well as by ambitious local princes. The Manchu rulers of China were continually pushing west against the tribal kingdoms of north central Asia; the Ottomans faced Hungarian and Austrian pressure on the Danube and Russian expansion north of the Black Sea. Only Japan, battened down in its now pacified islands, en-

joyed an environment free from the continual frictions of interstate competition, although the approximately 250 *han,* or feudal domains, with their *daimyo* lords engaged in stubborn mercantilist competition.[29]

No matter how much wealth was created, whether through improved agricultural yields, enhanced commerce and manufacturing, or the coerced output of slaves and serfs, the claims on the domestic product grew at least proportionally. States needed to capture as much revenue as possible, which meant a continuing conflict with civil society, whose diverse estates sought to retain whatever wealth they could. As always, states enjoyed limited options for covering expenses. They could sell offices and privileges to magnates, that is, exemptions from taxation or the rights to collect and retain ("farm") a share of the taxes owed by the nonexempt. They could appeal for "gifts" from their clergy or from nobles, who, generations earlier, had been granted tax exemptions. They could levy excises on traded goods; most significantly, they might try to tax peasant producers directly or through agents to whom they sold collection rights. Taxation, however, ran into the resistance of landlords, who hardly consented to share whatever surplus might be pressed out of their tenants in rents or labor services. Other societies continued to turn to their countryside resources as the basis for viability. As agrarian crises and periods of dearth followed the Seven Years' War, rebellion flared anew, as it had a century earlier—in central Russia under Pugachev and Stenka Razin, in Bohemia in the 1770s, and among the North American colonists resentful of London's new taxes or restrictions on their western settlement. How were the societies of the late eighteenth century going to resolve the worldwide upsurge of conflicting ambitions—aspirations that arose in some cases from the overburdened poor and in some cases from those ascending to new prosperity and consciousness of rights?

The Cadastral Struggle

The relationship of good government to productive agriculture was hardly a new insight. Today's visitor to the Siena town palace still beholds the great frescos that Ambrogio Lorenzetti painted in 1337–1338 to depict the effects of good and bad government on the prosperity of the republic—bountiful agriculture and humming commerce in the one case, devastation and discord in the other. Of course, the frescoes simplified cause and

effect into a moral allegory, whereas economic outcomes in real life went awry even when rulers were not arbitrary and abusive. Indeed Lorenzetti's painted plaster had only had a decade to cure before the Black Death depopulated his thriving city and carried off the artist.

Lorenzetti's scenes are obviously not a map. They depict human activity oriented across occupational lines: dioramas of the rural economy. But maps and landscapes emerged from a surge of visual representation methods designed to serve different purposes with more specialized techniques, just as civilian and military architecture differentiated themselves in approximately the same era. Landscape painting was the cousin of the map. Slowly it emerged in the West as a theme in its own right—not just the background against which portraits or religious themes were placed, but an active arena of atmospheric effect, of distances, a way for subjects and viewers of paintings to immerse themselves in the representation of a landed milieu. And after a general absence of almost a millennium, there was an explosion of maps that depicted where landed properties bordered each other. After the Roman usage they are called cadasters (cadastres, catasti) in the West. The cadaster is a map, a visual depiction of properties from above, accompanied by a list of the proprietors and of the revenues they provide. Private owners often commissioned them—seigneurs or abbeys seeking to determine and establish their rights to rents and dues—but they soon served public rulers trying to rationalize and impose taxes. Mathematical sophistication enhanced the craft of each domain—studies in perspective and vanishing points for the painters, trigonometric applications for the mapmakers.

Along with the development of projection techniques, the major advance was to be that of triangulation—the determination of distances and locations by applying trigonometric functions to complex chains of multiple triangles. Triangular measurement of distances not only allows indirect computation of distances across rough terrain by sines, tangents, and cosines; it also ensures that the diverse segments of a large-scale map share common sides and thus serves to cross-check distances from one segment to another. It provides for mapping the same rigidity that triangles afford in construction. The large-scale map presents problems of projection that the cadaster does not usually raise, because the discrepancy of the earth's curvature and the painted two-dimensional surface can be left out of account for the property map. But the property map

does depend on the refinement of surveying instruments that must themselves be based on trigonometric functions. The distance to the distant site is inferred from the angular properties of the right triangle not just by unfolding one length of chain after another.

The technique was known to the Greeks and the Chinese of the third century; the Dutch mathematician Gemma Frisius proposed it for mapmaking in 1533, following which English surveyors publicized it in Britain. The Dutch geographer Wilebrord Snell used it to map the distance from Alkmaar to Bergen Op Zoom in 1613, and the French Cassini family was to develop it first by measuring specific distances along a major meridian, and then, over three happily long-lived generations, by producing an accurately measured map of France. But this work moved slowly from the late seventeenth century; coastal and local maps were constructed, but linking together the whole was a daunting task. Mapping by triangulation also lagged behind the mathematical computation of logarithms and trigonometric functions because the refinement of instruments, needed to accurately record angles in the field, such as theodolites, lagged behind that of grinding out the functions on paper. Colbert authorized Domenico Cassini to map triangles south to north along the meridian of Paris in 1683, but the new patron minister of the Academy, Louvois (who had so supported Vauban's program of fortifications as minister of war), slowed down the commissions. The effort crawled north, to be suspended during the War of the Spanish Succession. Domenico died in 1712; his son Jacques reached Dunkerque by 1718. Perpendicular east-west lines of triangles were constructed in the mid-1730s along with other north-south meridians, such that Jacque's son César-François could complete the painstakingly overlapped triangular survey of France by 1745 in eighteen sheets. In fact, large areas of the interior were left untriangulated. The coasts and the eastern frontiers (not the Pyrenees) are covered with overlapping tangles, and seven chains of triangles run east to west perpendicular to the Paris meridian. Where Vauban had implanted fortifications, the Cassinis left their triangles. The folio was hardly issued when Cassini III undertook a second survey in 1750 to be completed in 1788 and comprising 180 sheets. The original stimulus was military—the desire to map the northeastern theater during the War of the Austrian Succession.[30]

The British put their efforts into solving the problem of determining longitude at sea and started a triangulation ordinance survey only in the

1780s, then went on to the challenge of a major survey of India from 1801, deigned to yield distances, locations, and the heights of the Himalayas.[31] Triangulation, the accurate determination of meridian (north to south) degree lengths, and the refinement of instruments in France and Britain were political projects designed to master national and eventually imperial space. Military applications were never far away, although scientific academies and their expertise need to be harnessed. The maps were beautiful, and their scientific value was complemented by the artistry of the cartouches that often accompanied them with their symbolism of power and fecundity. They were in effect sacramental, giving visible form to sovereign power. Arguably they allowed the visualization of the early modern state that objectified sovereignty (along with the person of the king).[32]

State cadasters depicted the productive side of these surveyed spaces. They had to factor in the boundaries that demarcate property claims, private as well as public. Property maps, public or private, emerged as analogs of the maps of political jurisdictions; as such they suggest parallels to the Western state system as it is theorized in the early modern era—the unit, jurisdiction, or property, as a black box, its internal human divisions subordinated to the fact of its being a unitary stake in a larger contention as a unit. When monarchs asked for land surveys to establish their tax claims, they also required indications of the land's productivity such that forest and farmland, often with statements of their value, were attached. The cadaster ideally codified the rights of sovereignty and the expectations of property. As a historian of the Savoy cadaster has written, "The cadaster occupies a strategic position in the social configuration. It unites and it separates, slips into the local dialogue, interferes in the relations between the individual and the collectivity, between tax payers and the state. On the one hand it protects, guarantees, envisages the risks of piece-by-piece seizures *(empiètement).* On the other hand, it exposes bodies and properties to the blows of the tax collector and to the claims of others."[33]

Cadasters had existed since antiquity. The word derived from the Greek *katastichon* ("line by line"). In the Middle Ages there had been notable surveys, such William the Conqueror's Domesday Book and the French *compoix;* the Austrian territories recorded Urbare or tenancy records and contracts that stipulate rents and services. David Sabean has noted

the important renovations of village property records and tax assignments in sixteenth-century Württemberg.[34] The Dutch were the first in the West after antiquity to develop careful mapping and related description of private rights. As they reclaimed their land from the sea, they assigned the polder rights collectively to associations and polder boards under the authority of the agents of the counts of Holland and of local representatives, which in turn commissioned the mapping of the emerging fields and allocated the taxes to maintain the dikes. In 1533 the count of Holland—aka the holy Roman emperor Charles V—commissioned a cadastral survey of North Holland to reform the dike tax, which he followed with a survey of the Rhine territories down to Rotterdam. As ruler in northern Italy, he also launched a tax survey of the duchy of Milan. Surveying itself in Italy might be assigned to peasants as an off-season job, but it also became professionalized with a degree program at Leiden, although service as a "sworn surveyor"—the oath was to designed to guarantee honest measurements—often remained a secondary activity.

The late seventeenth-century and eighteenth-century European states vigorously revived cadastral activity. The first step was surveying. Agricultural land was essential for productivity, but the land had to be measured and compartmentalized. Here was a key difference from the atlases and maps developed to serve the objectives of sovereignty. Then the bordering of states dominated the agenda; now the productivity of the interior claimed attention. By the mid-seventeenth century, rulers of the Baltic (Sweden and Finland as the core of the Vasa Empire, Denmark, including Norway, as its principal rival) would commission maps of their holdings. Gustavus Adolphus (1612–1632), who added territory from the Danes and Norwegians and the river mouths across the Baltic, had surveyors trained so that each year once the snow had melted they might begin "diligently to measure the land belonging to each village, both arable and pasture." His instructions to the chief surveyor in 1628 emphasized that he wanted "not only to protect his land and realm against the enemy but also to use every opportunity and means to improve their condition."[35] Both geographic or political maps, and geometric maps on a far larger scale, suitable for assigning taxes and calculating yields, were produced and bound as part of an imperial project. "The most striking developments in Nordic mapping are, first, the compilation in seventeenth-century Sweden-Finland of the Geometriska Jordebörckerna," initiated

by Gustav II Adolf at the height of his reign as an expression of national power, reflection of the nation's glory and a symbol of its power; and second the mapping of the Swedish Baltic colonies to consolidate imperial power there. A national surveying agency—the Lantmäteri—would employ five hundred surveyors by the eighteenth century. By the conclusion of the reign, Swedish geometric mapping was the most comprehensive and best organized in Europe.[36] The impact of the surveys varied according to the vicissitudes of monarchical power. Charles XI imposed an absolutist policy over the resistance of the aristocracy, which included after 1692 producing a thousand-map cadaster of Swedish Pomerania across the Baltic, the first modern cadaster of territory within German-speaking lands. The string of Swedish reversals on the continent, including Charles XII's disastrous defeat by the Russians, set back the cause of expansion and of royal absolutism. The survey of the lands south of the Baltic would thus never serve as the basis for Swedish taxation, although the Prussian monarchs exploited the cadaster for the portion of Pomerania they captured and annexed in 1720. Within Sweden proper the aristocratic estates remained concerned that the royal survey would publicly reveal how much peasant land they had taken into their own hands and out of the fiscal reach of the monarchy. King Gustav IV Adolf was prepared to take the cadaster out of the drawer, so to speak, in 1800; however, rather than accept disclosure of noble holdings, the estates agreed to a hefty increase of their fiscal "contribution" by 56 percent.

As the Prussian finance minister Karl August von Struensee wrote in his major treatise on state financial policy in 1800: "Nothing serves better to instruct a statesman then a complete and reliable cadaster of his state. . . . Whoever seeks to govern a territory without this guiding thread will be tapping in the dark."[37] Details can be multiplied dozens of times. The cadaster was the tool of those seeking to systematize the revenue from land—whether for landlords or sovereigns. Norwegian evidence suggests, according to the historian of Nordic registers, that where subsistence agriculture prevailed, there was little impulse for enclosure or for mapping. "Enclosure appeared first and spread most rapidly where agriculture produced goods for market exchange and where desire to increase profit led to the need for absolute individual ownership of land."[38] Similarly, in Denmark the progress of maps went together with a change in the no-

tion of ownership from use rights over arables, meadows, and forests to property that could be mapped.

Territorial precision emerged as both a condition for and result of rural capitalism. In Germany the surveys remained the activity of the territorial princes and were particularly important for projects of land reclamation, forestry management, and taxation. The most systematic Prussian project took place in Cleves in the west, where a royal cadaster was carried out in the 1730s as part of an effort to impose higher taxes on a province only recently acquired and where landownership was scattered and fragmented; until then only the earlier Swedish effort in Pomerania had been attempted. The royal bureaucracy, the Kriegs- und Domänenkammer, the managers of the crown lands, and a hard-pressed peasantry, supported the effort, whereas the nobility, which was slated to lose exemptions from the land tax (the Kontribution), opposed the project. The Cleves survey from 1731–1736 yielded maps of 66-by-105 centimeters as well as accompanying inventories, based on information from locals who pointed out property boundaries and buildings. Despite reliance on army officers to walk the village property lines with the surveying tools, the enterprise was costly, and when Frederick II came to the throne in 1740 and seized Silesia from the Habsburgs, he switched his efforts to that other end of his kingdoms. By and large the nobility threw sand in the wheels of cadastral projects, fearing they would lose tax privileges, and even the Prussian monarchs could make only limited progress. But the French invasions during the Revolutionary and Napoleonic Wars, entailing years of military exertions for armies on one side or the other, provided the impetus for a fundamental territorial reorganization in the German lands, including ruthless simplification of political and religious jurisdictions and cadastral mapping.

Rationalization of territory dominated high politics and internal administration. For the German states, where over 300 quasi sovereign units survived after the Treaties of Westphalia, the French conquests allowed a tremendous consolidation on behalf of the conqueror's mid-size allies. Between 1802 and 1806, Napoleon summoned their rulers to a great territorial banquet, prepared in Paris, that allowed thirty-nine rulers to absorb the often leopard-spot jurisdictions within their borders as well as the ecclesiastical principalities and ultimately to retain their gains in the

German Confederation after 1815. Territorial enlargement and administrative reform to overcome the fiscal demands of continued military exertions became twin objectives as the German princes' ambitions adapted to French power and the zest for spatial reorganization that had motivated the creation of French *départements* early in the Revolution. Internal administrative rationalization in some of the states was also unleashed. Under the leadership of the centralizing reformist prime minister, Maximilian von Montgelas, Bavaria, which faced major deficits but had also gained major territory as a result of Napoleon's favors, embarked on its own period of fiscal-teritorial rationalization. *Steuer-Rektifikation* or tax-rectification, suggested by one of the monarch's civil servants in 1799 became the slogan that overhauled the existing tax administration and transformed the realm's local assessments by agricultural use into uniform spatial units: "Since as long as the state remains a mere aggregation of diverse components," the monarch's constitution of 1808 declared, "it can never attain the full measure of strength that its potential might provide. . . . We are seeking to establish a uniform system."[39] From 1808 to 1867 the state was mapped and charted in twenty-two thousand maps on a scale of one to five thousand.[40]

Bavaria moved in the wake of its recent acquisitions and the need to exploit its resources to rationalize its territory. Having acquired Italian domains long before, their neighbors, the Habsburgs, began earlier and undertook one of the most exemplary cadastral projects in Europe. After Charles V acquired the duchy of Milan, he began a cadaster in the 1530s. Leopold I had sought to rationalize taxes and remove aristocratic exemptions after the Thirty Years' War; Charles VI, father of Maria Theresa, decreed the *censimento* of the duchy again in 1718, and the effort was carried on by his daughter. The province was rich and had no troublesome Diet to obstruct the effort; it was governed by a Giunta appointed from Vienna. The wars of the Polish and Austrian successions, with their invasion of Milan in 1733, interrupted the survey for sixteen years. The first supervisory Giunta, dominated by Gian Rinaldo Carli, carried out most of the surveying from 1718 to 1733; the second, led by Pompeo Neri, completed the registers during 1749 and 1750. The new, reformed tax assessment followed only in 1760. Neri, who brought the effort to a delayed but serious conclusion, allowed that "this magnificent Project was executed with the most happy success," producing a topographic map for

every one of the communities in which would distinctly appear the shape and situation of every piece of land with its measurements and the most minute distinctions.[41] Adam Smith praised it as "one of the most accurate that has yet been made."[42]

The novelty lay in the mapping and the classification. Standard scales (one to two thousand) yielded 2,387 maps covering an area of about 12,600 square kilometers (about five thousand square miles). Earlier surveys had taxed the landowner in the province where he lived, but supposedly on the totality of his holdings and it had depended on the landowners' honest reporting of their dispersed properties. The new cadaster was to provide the basis for assigning the tax to the land where it was located and surveyed. Rather than try, moreover, to estimate what individual holdings might yield, value was imputed per hectare according to the average yields for diverse uses of the land throughout the province, that is, depending, on whether it was allocated for pasture or planted for grain or olives, vineyard or mulberries (for silkworms), and so on.[43] As the Risorgimento political economist Carlo Cattaneo noted, the virtue of the assessment method encouraged industrious landlords to produce more than the imputed average since the surplus would escape taxation.

Landowners, however, complained that the new assessments were three to four times the previous ones and faulted the first Giunta for not having counted the costs of irrigation water as a major deduction and thus raising the value of the underlying land from 30 to 50 percent.[44] Mulberry cultivators (for silkworms) raised tearful protests that particularly provoked the official. Although most communes were very happy with the assessment results, Neri claimed, the lawyers for the silk farmers protested loudly and selfishly for their own narrow, special interests. "It would have been wiser, when appealing on behalf of the public, to speak on behalf of the funds for the woods, meadows, gardens rather than just the mulberry growers." In fact, "they have taken their stubborn search for tax breaks to the court of Vienna together with all the other contemporary machinations that are played out to escape reform and perhaps unwittingly have sought to harm their own country." Neri's report revealed how important the cadaster was for eighteenth-century territorial wealth and power, even as it was contested piece by piece by the local "optimati." Although organized by royal commission, much of the work of individual valuation and assessment had to be delegated to local officials

and councils (three of whose elected representatives sat on the Giunta).[45] Cameralist reformers, the foot soldiers, so to speak, of so-called enlightened despotism, ultimately had to work through and with the ruling classes that so resisted their aspirations.

Neri spoke for an enlightened absolutism that was hardly absolute. Like his contemporary Turgot in France and the reformers under Philip V, Ferdinand VI, and Charles III of Spain, he advocated a single tax on the value of land. It accorded with the idea that land was the source of surplus and a tax on it would be easy to collect. It would eliminate the constant contestation with local magnates, jealous of their age-old tax concessions and could be imposed on extensive church holdings as well as secular land. But the monarchs often had to yield. Maria Theresa compromised with the church in the Concordat of 1754, which protected church properties until Joseph II voided the treaty in 1784. Joseph's successor Leopold (1790–1792), alarmed by the upheavals in France, was to yield again.

Milanese cadastral procedures influenced neighboring Savoy and Habsburg Tuscany. Savoy (unofficially Piedmont, or officially the kingdom of Sardinia, so named from the island it acquired in 1720) long faced tenacious tax resistance from a nobility that enjoyed hilly redoubts in their Alpine hills. The goal of a land tax announced in 1564 was reaffirmed in 1600 along with a property survey that was decreed in 1601 but that remained a dead letter for a century. After many false starts, including new royal decrees in 1697, Victor Amadeus I decreed a general cadastral survey in 1728—one of the first to include a mapping of private parcels "with specific distinction of their quality and nature, by location, by owner, and by owners' cumulative holdings [mas]." The resulting *perequazione* (reproportioning), published in 1731, assigned taxes by commune; local officials were to distribute the burden by property owner. In Savoy as elsewhere the surveying teams encountered the hostility and suspicion of local peasants and officials along with disagreement over the instruments that should be applied in such a hilly terrain. Surveyors swore an oath on the gospel that they would honestly measure and record the quality and revenues of the land.[46]

The result was a meticulous and beautifully executed effort to depict the landholdings of the principality. Was it accurate? Surveyors often had to rely on the data furnished by landowners themselves. The nobility

distrusted the centralizing state and protested the new surveys: "We are attacked on all sides. God, what a century!" the estate agent of the Marquis de la Roche wrote his master. The nobles' delegation self-righteously lamented, "It seems beyond doubt that the king intends to impose the *taille* on the Savoyard nobility. At the same time it's being made clear to the nobility that their loyalty is viewed as so equivocal that imposing the *taille* will appear as a consequence and a sort of punishment for the lack of zeal for royal service attributed to us. The Savoyard gentry may be unhappy but their loyalty is beyond reproach. All of us would accept uncomplainingly if our lands, of so little value as they are, passed to the crown—but the imputations of disloyalty are really depressing."[47] At the end the tax assessments were adjusted by arbitrary estimates: the abbot of Mellarède claimed that the allocation of taxes, theoretically based on the cadaster, was "almost independent of its estimates." Indeed the inventories were sometimes adjusted to justify the assessment. When the survey was finally published in the fall of 1738, government officials praised the "laws of an equal society" where every subject would pay his fair share while the nobility, according to the Count of Menthon, "talks only of the desolation and poverty caused by the new cadaster."[48] It took another thirty-three years but in 1771 the court in Turin moved to suppress seigneurial dues.

Spanish Bourbon reformers had also mooted a *única contribución* on income from land—noble as well as common—and on professions and trade. They succeeded in Aragon and Catalonia, imposing a tax called the *catastro,* and extending it to church properties in 1753. The Milanese effort was one of the inspirations for Ferdinand VI's finance minister, the marqués de la Ensenada, to survey provinces of Castile along the lines of the Catalan catastro from 1749 on. The new intendants' calculations suggested that a four percent tax on all properties would cover the hodgepodge of unequal returns. But Ensenada was dismissed in 1754, and the single tax decreed in 1757 remained a dead letter in the transition to Carlos III.[49]

Meanwhile Maria Theresa and Count von Haugwitz tried to rationalize fiscal reform for Austrian and Bohemian lands. But what the Habsburgs could push through in their Italian possessions they could not impose against their own nobility at home. The resulting Theresian cadaster rested on new surveys only in the Tyrol; elsewhere it depended on

declarations by the nobility—a procedure that actually yielded results since the penalty for false declarations could be confiscation of property and the government had informers in the field. The empress's son and co-ruler, Joseph II, sought a general land tax to be paid by every subject. Plans for a general cadaster were announced in early 1785 and fixed into legislation by the patent of April 20: "We can pay no attention to the customs and prejudices which have become established over the centuries. The land, the soil, gifts of Nature to Mankind, are the source of all value. From this comes the undeniable truth that the state's need for money must be met from the land alone and that there can be no differences amongst the possessions of men, no matter what their estate."[50] The reform used peasants as surveyors; they were given rudimentary training and supposed to finish their survey by the fall. The tax was based on income adjusted according to nine classifications of land use—arable, wastes, ponds, meadows, gardens, pastures, bushes, vineyards, woods—and the proprietors' declarations of income they had received from 1774 through 1782. The surveyors required four years, and they produced no maps.

Noble opposition was vigorous, and even some peasant communities and headmen resisted. The emperor dismissed Karl von Zinzendorf, head of the *robot* abolition commission at the end of February 1788, after his minister lamented that the cadaster "was rushed, filled with contradictions and altogether a failure," and threatened to dismantle it after Joseph's death. Three months later Joseph had to scold Vice-Chancellor Kolowrat: "All this [complaining] is empty blabber and a superfluous waste of time. . . . My principles are unshaken: everyone must pay according to his income." The Austro-Bohemian chancellery decried the impending impoverishment of the nobility: "A stroke of the pen is wiping out the right of property which ought to be sacred to the ruler."[51] Five days before the decree was to be officially announced in February 1789 a second chancellor resigned, provoking Joseph to complain of his "obstinacy and quixotic stance," but the decree was announced on February 10, 1789. The new taxes moreover imposed a ceiling on peasant rents to the landlord as well as on their church tithes and taxes to the state. The peasant was to owe the state about 12 percent and would pay the lord and church together about 17.5 percent of his gross income—a total burden of about 30 percent. Most of the estates protested; the nobility of Styria said they

would face terrible poverty and expropriation. All very well—the cadaster was introduced in Austria and Bohemia, though not Hungary—but the emperor died in 1790 and his brother Leopold II, taking power for two years as the French Revolution broke out, canceled the new tax ordinances. Systematically mapped cadasters would wait until after the Congress of Vienna when the emperor Francis undertook to impose his *"stabile"* from 1817—a mapping based on triangulation.

Unsurprisingly, French cadastral efforts remained hostage to the stalemate between king and aristocracy that characterized the years between Louis XIV and the Revolution. The splendid Cassini atlas of the kingdom was a royal project and collided with no class privileges; not so a national cadastral effort. Villages and estates, noble lands, parishes, and forests were mapped throughout the ancient regime; monarchs had done partial surveys from the Middle Ages on—but no systematic state cadasters were introduced until 1807, when the Napoleonic regime initiated what would become known as the *ancien cadastre*.[52] The resulting survey became seen as a signal achievement of the French state—but it required the revolution and the empire to get it under way—an irony that Tocqueville would certainly appreciate.

The cadaster was thus the preeminent technology for centralizing rule, and its fate was subject to the balance of social and political forces. Who controlled the national territory? When surveying remained a market tool, it could proceed without public conflict. In Britain authorities and local landowners provided their own plats, that is, surveys of individual estates with maps and written descriptions. Since cadastral projects in Europe responded to state fiscal needs, the centuries-long British movement to enclose lands on behalf of local gentry and prosperous farmers did not produce national surveys until the eighteenth century. After 1750, however, mapping was a requirement for registering enclosures. Where the British state ruled by conquest, it could impose a national survey. Once Britain confiscated major portions of Irish land after Cromwell suppressed the rebellion of 1641, it charged William Petty—encountered in the previous chapter as the pioneer of "politickal arithmetic" with carrying out the so-called Down Survey. The histories of the war recorded devastation, violence, starvation, and expropriation; the maps recorded confiscated town lands as well as the quality of the land—whether arable, bog, forest, or mountain.

Colonial North America presented a mixed picture. Land surveys did not have to untangle centuries of overlapping rights and claims, but were needed to allocate vacant land as settlements moved inland. Access to river frontage was stipulated early on, and a few vast proprietorships, envisaged as manorial, marked Maryland and Carolina. In the southern tidewater region, maps recorded the plantations awarded by colonial proprietors. As settlement proceeded inland, the granting of "headrights" or individual properties if they were "seated and settled" led to a vigorous development of individual surveys. Initial village settlements in New England distributed small tracts but, by the eighteenth century, the move into the interior stimulated a vigorous commercial land market with large properties carved out and accumulated in frontier regions, such as Maine. The revocation of New England charters in 1690 as part of the effort of the new British regime after the Glorious Revolution to consolidate a dominion of New England also allowed large-scale acquisition to intrude on the early communal impulses. Geodesy or surveying became a widespread branch of expertise.[53] The cadasters served owners and speculators and eventually local governments but not a central state.

The map in short was the uncontested project of expanding empire and ambitious state wedded to the scientific curiosity that impelled European expansion. The cadaster represented the triumph of the centralizing forces in the long battle between monarch and landed elites. Maps and cadasters alike affirmed the integral connection of public power to the resources of territory. Recall William Petty, surveying Ireland: a mapmaker in the service of a conqueror, but also an early estimator of national income and a theorist of economic surplus. In his 1662 *Treatise of Taxes and Contributions,* Petty broke down the yield of the land. Once an individual farmer had taken the seed needed for planting and paying others for his clothes and necessities, "the remainder of Corn is the natural and true rent of the Land in that year; and the medium [mean] of seven years, or rather of so many years as make up the Cycle, with which Dearths and Plenties make their revolution, doth give the ordinary Rent of the Land in Corn."[54] Sow and ye shall reap; crucial to the emerging economic mind was that ye shall reap more than what you sow.

Physiocracy Goes Global

From land to grain—from the surface of the globe to the resources it yields: Petty's work prompted the reflections of Richard Cantillon, A wealthy banker of Anglo-Irish stock, longtime resident in Paris with his beautiful daughter, he was apparently murdered in London in 1734 by his French chef, who torched the house and most of his papers, then escaped to Holland. For Cantillon, whose *Essay on the Nature of Trade in General* had fortunately been published before his cook's rampage, "all the classes and inhabitants of a state live at the expense of the Proprietors of the Land." As Schumpeter expounds Cantillon's analysis, "Whereas every other income item is being balanced by a cost item, the landowners' rent is the only one that is not so balanced because, to use a later phrase, it is a return to a 'costless,' that is, non-produced, natural factor."[55] Land is a free and productive good, God's gift of capital, so to speak, to man.

Cantillon envisages that the return from a property is divided into thirds. A third will cover the farmers' yearly outlays aside from rent—in British usage farmers are construed as substantial long-term leaseholders; another third will be retained by the farmers as profit; the final third goes to the proprietors or landowners. They in turn spend half of these receipts in towns, which is augmented by the half of the farmers' combined two-thirds (outlays and profit) that is spent on urban goods and services—such that half the profit of land goes into urban production: a model of economic circulation that anticipates Quesnay's *Tableau économique* of the 1760s. As one of Quesnay's fans, the elder Marquis de Mirabeau, summarized the circular flow a generation later, "God alone is the donor and the remunerator: everyone else is only, can only be a distributor. . . . But [agriculture] is a type of work that God recompenses by the instrument of nature, whose effect he doubles and makes a pure gift, indeed can triple and multiply the closer we come to his order and laws. . . . It's the art by which man . . . makes himself into a sort of substitute for the Creator, it is *agriculture*."[56] Formalized as economic theory by the circle of French analysts who took the name "economists," these ideas became known as Physiocracy—a corpus of teachings often dismissed as fixated with agriculture, but one that if shorn of the Quesnay coterie's enthusiasm, offered a cogent program for development.

Starting analysis with a focus on the countryside has certain implications. In several respects it is progressive. Taxation can be simplified and fairer: since wealth originates with nature's bounty, the ruler should base taxes on land ownership and not on the toil of those who don't profit from it. Second, there is a concern with development, not just fiscal returns. The new ideas look at the kingdom with respect to society as well as to the state. Thus they differ from seventeenth-century mercantilism. Mercantilism had focused on fiscal health: the revenues of the state, its mobilization of resources to compete in a zero-sum world of imperial competition. Mercantilist doctrines had also focused on trade and exchange as the source of wealth, measured success by bullion and trade surpluses, and by keeping industry at home. States were competitive entities; empires were the most competitive of all. Mercantilism showed how to mobilize wealth for the state in a world where the total above ground was likely to be fixed and profit could derive only from redistribution. Extraction of metals alone might add to the global total. The early mercantile writers, Thomas Mun and the Huguenot in London, Antoine de Montchrestien, confronted the collapse of British cloth exports caused by the reopening of the Spanish-Dutch conflict in 1618 along with the Thirty Years' War.[57] For Mun foreign commerce determined the domestic supply of money and the rate of interest. Mun had no obsession with amassing bullion as such; however, he still believed that only foreign and not domestic demand contributed to the net wealth of the kingdom. Savings and production at home served rather as the prerequisite for profitable trade. "Industry to encrease, and frugalitie to maintain are the true watchmen of a kingdoms treasury."[58]

The mercantilists stressed commerce and what today's economists call a surplus on current account—which rests in part on hard work and restraint of consumption. But something must be traded. For countries endowed with minerals, wealth can be extracted from mines; for coastal lands it can be drawn from the oceans. Wealth as an underlying resource can come from the agricultural capacities of the soil itself—the Physiocrats' answer. And thus we return to territory, now as the land over which exclusive proprietary rights can be claimed. It produces value, but squatters' rights aside, the claims must ultimately be guaranteed by politics.

Writers on political economy often accepted parts of the Physiocratic doctrine, which were propagated tirelessly by a small circle of intellec-

tuals, but not others. Few thinkers accepted that agriculture was the only source of surplus in the economic cycle, and not all fiscal reformers ratified the idea that a single tax on agricultural land should be the major source of state revenue. But what attracted almost every economics writer was the notion that restrictions on prices and the export and import of grains should be lifted. So, too, prohibitions on the purchase and sale of land—whether deriving from entailed estates, the church's privileged holdings, the traditional village common lands, or from the customary "wastes" set aside for pastures or squatters—must be eliminated. Only when land became a commodity could the productive potential of territory be realized.

Land, of course, even arable land, is not a homogenous resource. There are woods and "waste" and commons as well as the acreage that is sowed, and the quality of the soil will vary widely. Population pressure also has an impact over the exchange value of land and its product. By the early nineteenth century, David Ricardo suggested that the rising price of corn (that is, wheat) was a consequence of the need to bring ever-less-fertile land under the plough. The price of wheat depends on the price and productivity of the last units planted, and society puts into service the least productive or more marginal lands last. But wheat prices rise as a whole. As a growing population requires pressing more marginal land into service, landlords who have older and more productive land are made wealthy without effort. Scarcity cannot increase overall wealth, but it can shift wealth from one class to another.

It is worth bearing this later analysis in mind because it reveals some of the implications of eighteenth-century theory. For Turgot and the Physiocrats and for Pompeo Neri, the director of the Habsburg cadastral effort resumed in Milan after the war of 1740–1748, land should be the factor of production that is taxed because of its inherent fruitfulness. The Milan Giunta understood that land can be graded according to its productivity, and the cadastral survey was to classify each piece according to possible yield. The surplus above what society required merely to subsist—which landlords and nobles often took for themselves, which supported the church, and which ultimately must support government and its projects—could be paid for from nature's bounty. In response to a questionnaire from the Contrôleur-Général Bertin, Turgot set out an outline of tax policy in 1763, maintaining that consumption taxes were unfair

both to the poor and to the proprietors of poor lands who had to work harder for their product: "Who is liable to taxation? Proof that only the proprietor of the soil [should be] liable. . . . Only the owner of landed property has a true revenue."[59] Tax land according to its productivity and in effect one taxes only God.

The French understanding of surplus was not that of Smith and the British theorists nor that of the important late eighteenth-century Milanese political economist Pietro Verri, whose 1771 *Meditations on Political Economy* prompted Voltaire to write him that he had never read anything "truer, wiser, or clearer."[60] Verri sharply rejected the Physiocrats' dismissal of nonagricultural activity as "sterile." As the Abbé de Condillac would repeat a decade later, no economic activity—indeed no phenomenon in the universe—was pure creation; it was always a *modificazione,* a transformation, hence to be thought of, as today's language would have it, as value added.[61] For that reason, like the Physiocrats and Condorcet, Verri chose the term "reproduction" (defined as "renewal") for what we would call production. For the French, surplus was merely the yield on agriculture that could pay for the manufactures and services produced by those not in agriculture, including those of the legal, notarial, and ultimately military professions. François Quesnay brutally labeled all these components of national output as the work of *"les stériles."*[62] It was the fruitfulness of the soil that supported their labor and their contributions.

The great innovation of his "Tableau" was the diagrammatic representation of sectoral output that was self-reproducing and went from one cycle of activity to the next, using agriculture to pay for all the nonagrarian enterprises including government. The third version of Quesnay's Tableau in 1766 revealed how the table or "zic-zac" worked. It essentially elaborated Cantillon's scheme. At any given time, proprietors or landowners have collected, say, a billion of product that will be the input for the year ahead. Spending half in the city (500m), they also advance half to the farmers who rent from them and who double, say, their value through the land. The farmers then return half of this amount for their rent (500), then spend one quarter (250m) for their own sustenance and another quarter (250m) in towns for the manufactures produced by the sterile class. The *stériles* spend 250m of the combined 750m they have received on their own and on their workmen's food, and 500m to repro-

duce the goods they have sold to landlords and farmers. The system does not depict growth, merely reproduction.[63]

For Verri and then Smith, however, surplus represented an excess of production over consumption; its significance lay in the fact that it could be carried forward to an expanded level of activity; that is, it represented capital. One needs to observe two objects above all, Verri insists, and they are annual reproduction and annual consumption. If they are equal, the nation preserves its wealth; if consumption is greater, the nation grows poorer. If production exceeds consumption, it grows wealthier. What is more, agricultural output can always be improved—it never reaches an absolute limit, although the limits of demand may be reached.[64] Smith wrote a few years later, probably having read Verri: "There exists another balance, quite different from the commercial balance (i.e., the balance of exports and imports), which necessarily determines the prosperity or the decadence of a nation. This is the balance of annual production and consumption."[65] It is this growth or what Smith calls the "natural progress of opulence,"[66] and not any given level of wealth, that becomes the implicit object of economic scrutiny. Smith's problem is not merely the wealth of nations (a phrase he may have gotten from the French), but the growing wealth of nations. If surplus is not consumed in vain display, but accumulated by virtue of parsimony, it can generate greater output.[67]

Rather than identify a single source that could be safely taxed, Smith advised his readers to avoid those that would impede the generation of society's growth, of which protective tariffs were the worst since they impeded the international division of labor and its spurs to growth. He paid great attention to the Physiocrats but rejected their idea that only the land could generate an economic surplus: "The capital error of this system, however, seems to lie in its representing the class of artificers, manufacturers and merchants, as altogether barren and unproductive."[68] Smith's critique of his French contemporaries hardly meant that he scorned agriculture. On the contrary, he praised the steady returns and quality of life it offered:

> The man who employs his capital in land, has it more under his view and command, and his fortune is much less liable to

> accidents, than that of the trade, who is obliged frequently to commit it, not only to the winds and the waves, but to the more uncertain elements of human folly and injustice, by giving great credits in distant countries to men, with whose character and situation he can seldom be thoroughly acquainted. The capital of the landlord, on the contrary, which is fixed in the improvement of his land, seems to be as well secured as the nature of human affair can admit of. The beauty of the country besides, the pleasures of a country life, the tranquility of mind which it promises . . . have charms that more or less attract everybody; and as to cultivate the ground was the original destination of man, so in every stage of existence he seems to retain a predilection for this primitive employment.[69]

To be sure, this Virgilian passage was intended to bolster the argument that town and country benefited from each other; ultimately without the town, the country remained sunk in primitive poverty, Smith might have protested Quesnay's attributing economic surplus to the land alone, but he admitted that the capital acquired by commerce and manufactures "is all a very precarious and uncertain possession, till some part of it has been secured and realized in the cultivation and improvement of its lands. . . . The ordinary revolutions of war and government easily dry up the sources of that wealth which arises from commerce only."[70]

The notion that the land was the sole source of surplus even in agriculture, not surprisingly, was heavily contested. In his widely admired tract written in 1766, *Reflexions sur la formation et la distribution des richesses,* when he was serving as Intendant of Limoges, eight years before being called by Louis XVI for his brief career as comptroller general, Anne-Robert Turgot called the surplus the *produit net* and, although he separated himself from the "sect" of the economists or Physiocrats, he began his analysis with agriculture. Specialization of labor was required to meet even the most basic human needs, but the worker of the land retained "the same primacy, the same pre-eminence as, when he lived alone" [although Turgot has written that he could not have lived alone] and had to provide just his own food. The fabric of reciprocal needs "binds society together, but it is labour on land which is the prime mover" (§5).

The land, as worked by men (so Locke had already taught) was the basis of wealth: "What Nature gives . . . is a purely physical result of the fertility of the soil, and the appropriateness, much more than the difficulty, of the means [the primary producer] has employed to make it fruitful." "As soon as the primary producer's labour provides more than is enough to meet his needs, he has a surplus which nature gives him as a pure gift, over and above the wage of his labour" (§5).[71] Land and labor both contributed to society's production function.

Society was thus divided into three orders: those who worked the land, artisans who produced other goods, and the landowners, "the only order who not being bound to any particular work by their need for a livelihood, are independent and therefore available for employment in meeting the needs of the community as a whole, such as war, and the administration of justice" (§15). Still, for all the search for a prime mover, Turgot had a highly modern sense of the economic cycle—capital, "accumulated moveable wealth," was as necessary as labor and skill. If there is a "disturbance of any kind in the pattern of expenditure or the different orders of society," capitalists would cut back their enterprises (that is, investment), production would fall, and "ordinary labourers, no longer able to find work, will sink into the deepest distress and destitution" (§68). Like Smith, with whom he conversed in the year before writing his *Réflexions,* Turgot praised thrift and criticized extravagance (§80), since "it is the abundance of capital which brings enterprises to life, and a low rate of interest is both the effect, and the indicator, of abundant capital" (§88). But unlike Smith, Turgot was unwilling to abandon the primary role of land. Capital was available because of thrift, not the inherent potential of technology or organization; land alone offered an inherent fruitfulness. "There is no revenue other than the net product of land. All other annual profit is either paid from this revenue or is part of the cost which serve to produce it."

Ten years later, and after the first rejection of Turgot's program, the Abbé de Condillac was emphatic about rejecting the exclusive role of land as a source of surplus. Labor was always involved, whether in agriculture or in manufacturing, in creating goods that had value, and the value added or net product arose from the change of form of any raw material or prior product.[72] Condillac anticipated Marx's sharp critique of the doctrines. The theoretician of socialism was a sharp reader of earlier theory, if often

abusive and determined to impose his own problematic concepts of use and exchange value, surplus, and exploitation. He appreciated the Physiocrats and Turgot since, in contrast to the Mercantilists, who identified profit with the redistribution of already existing value from one country to another, they sought the sources that increased wealth as such. But they erred in attributing the surplus to land: although "it is the great and specific contribution of the Physiocrats that they derive value and surplus-value not from circulation but from production," as Verri had understood, they mistakenly attributed it to the properties of land and not to the social conditions in which agricultural labor was extracted. Physiocracy, Marx concluded, was a bourgeois doctrine built on feudal premises.[73]

Given that land and not agricultural labor was the ultimate source of surplus under Physiocratic precepts, what policies were advisable? The program of the Physiocrats, and their intellectual kin Turgot, was supply-side economics applied to agriculture and simple in theory: liberate grain prices; liberate the land from "feudal" or aristocratic entail and the "dead hand" of the church; move unused common lands into the market; and, ultimately (as Vauban and Boisguilbert had urged), rely on a single land tax since land was the source of surplus. Reforms on paper, however, were hard to translate into practice. Freeing prices threatened domestic unrest; the numerous clergy and religious houses apparently exerted a deadweight on the economy, while a profusion of notaries lived parasitically on all legal transactions. Reforms decreed at the center could be blocked on the local level. The common lands of Savoy, for example, so the cadaster of 1728–1738 revealed, produced little revenue. In the Tarentaise 70 percent of the land was communal but produced only 20 percent of the revenue. The conclusion was to sell the excess, but despite the orders of a new "economic hierarchy" in 1739, village councils blocked action, and even by the time of the Napoleonic invasion, the land situation had changed little from a century earlier.[74]

It was particularly hard to impose the policy conclusions in France—that is, to tax the landlords but not the cultivators—and despite their close connections at the court of Louis XV, where Quesnay was a favorite of Mme. de Pompadour, the Physiocrats could not carry their policy recommendations. A flurry of reforming edicts had to be defended in the regional parlements across the kingdom. As controller general in 1774,

Turgot decreed the end of the *corvée,* which he criticized for conscripting peasants for work on the public roads while the landlords were the ones who benefited from the improved access of grain to markets. "How can it be just to force those who have nothing to donate their time and unpaid labor, to take away their only resource against poverty and hunger to make them work for the profit of citizens wealthier than they are!"[75] (Turgot's reform, however, was rolled back piecemeal, until more successfully managed by his later successor, Necker.) He urged removal of the taxes on leather and cattle, wanted to lift the restrictions on selling wood outside the city of Paris that its officials imposed on the owners of local forests—it is "contrary to the first principles of *property and liberty.*" Complete the abolition of all river and canal tolls within the kingdom, he appealed, and begin a national road and canal transport service: communications are part of the "the protection that we owe to agriculture which is the true base of public prosperity and abundance and the favor that we want to grant commerce as the most certain encouragement for agriculture."[76] Most radically he argued that if price controls on bread were abolished, suppliers would respond to the incentives; expanded production would follow, and the new equilibrium price would be no higher than the earlier controlled price. Likewise let grain travel freely out of district and even out of the country. Decree followed upon decree liberating commerce in 1774–1775. But what would happen in the transition as milling and bread prices soared in a country where bread was an urban staple and could claim half of a family's budget?

The new monarch Louis XVI initially accepted Turgot's policy, but faced with a wave of aristocratic protest as well as urban demonstrations—the so-called flour wars of 1775—he abandoned the experiment. (In Tuscany the reform as carried through, as it would be in Spain—years later.) As for the tax reforms, they were quashed at the outset. The preliminary requisite for the single tax had to be a national property register. At Versailles on September 1, 1775, when Louis XVI expressed his enthusiasm for Turgot's idea of a national cadaster and an equal tax burden, "all the ministers remained silent until one ventured, 'Sire, the astonishment that your Majesty sees among the council is justified: M. Turgot can't be ignorant of the fact that for two hundred years there has been a cadaster planned but it has been understood to be impossible to carry out. . . . Besides the immense cost of the operation it would turn the state upside

down without bringing any prompt or real relief for the people.'" Everyone agreed. "And the king decided to keep his conviction *in petto*."[77] Turgot was soon out of office with his reformist program in shambles.

Elsewhere Physiocratic policies made headway in some places but not others. Despite the cadaster's success in Lombardy by midcentury, the Verri brothers, Pietro and Alessandro, who edited the Milanese reformist journal *Il Caffe* in the 1760s, could not convince the new economic council to follow the Tuscan example and allow free trade in grains (including the right to export them out of the province). Vienna ruled the province but despite his own Physiocratic preferences, Chancellor Kaunitz was not willing to intervene with a heavy hand.[78] The reformist Cardinal Boncompagni advanced reformist ideas against resistance in the papacy's province of Bologna. The prescriptions were echoed in southern Italy, absorbed throughout the Iberian world, admired by Thomas Jefferson, whose friend Dupont de Nemours was a leading Physiocrat, and exerted an impact even on the British fiscal administration in Bengal.

Confronting a society of entrenched exemptions for landlord elites throughout continental Europe, the reformers began with the conviction that taxes should be switched from persons or families, overwhelmingly living near subsistence, to the underlying productive asset that was distributed so unequally. The Physiocrats separated the *taille personnelle* from the *taille réelle,* the tax on land. Even when other reformers criticized the idea that land was the source of all wealth, they often concurred that that land could be measured and evaluated and the burden assigned to landowners rather than poor tenants, whereas the effort to estimate the nonlanded wealth of an absentee proprietor yielded derisory results. Still, there were important dissenters. Pietro Verri argued that taxing land alone would reduce capital and spare a genuine source of wealth: "I can't associate myself with either the [French Physiocrats'] views on taxes . . . or on the supposed sterile class."[79] "Reproduction" or surplus could be attributed equally to manufacture as to the labor of the fields, and even a civil servant sympathetic to the program of throwing land on the market, such as the Tuscan economist Francesco Maria Gianni, argued vehemently that a single tax on land "will always be absurd, and pernicious," and that cadasters can never provide a valid basis for assessing income from agriculture.[80] Other compromises also made sense. Aware that landlords and their tenants put effort and savings into improving their lands by fencing,

buildings, and irrigation, policy makers did not want to penalize or discourage such investment. In the case of the Lombard reforms, the idea was to tax what the land could be expected to yield before landlords had improved it—that is, on its "bare income," *nuda rendita.* Investments and improvements were to be deducted from the value of the property, itself determined by capitalizing the rental that a given category of land was yielding.[81] Finally, there was just plain resistance that prevailed. Nobles fought for their exemptions, and the Giuntas that ruled the province for the monarch in Vienna found it hard to resist their pleas. For all the success of mapping property, taxation did not increase.

For over a generation Spanish developments revealed the tug-of-war as starkly as events in France. Until the Revolution came to the French countryside after 1789, French reformers were weaker politically, although productively Spain had remained poorer for over a century. Charles III of the Neapolitan Bourbon line, who succeeded to the Spanish throne in 1759 after reigning in Naples, faced a decade of drought and poor harvests, which compelled the abandonment of early reforms. The effort to free the grain market in 1765 by eliminating price controls and allowing grain to be shipped outside the local provinces led to riots by the next spring, which led the king to sacrifice the reforming minister, the Marquis of Esquilache, whom he had brought with him from Italy. Charles remained favorable to reform proposals and by dint of a long reign could impose some of them, even though he confronted elites powerfully entrenched in local governments. Colonization schemes in the south produced some marked successes, as Minister Pablo de Olavide allocated the uncultivated and primitive Sierra Morena and the Cordoba area into land for grain, flax, silk, and hemp cultivation. Imposing reform where the land was settled and powerful landowners controlled the town councils was harder. In an effort to redress the local political balance, Esquilache's collaborator Pedro Rodríguez de Campomanes introduced election of commoners in the towns of Castile to represent the smaller tax payers and to rent out common lands to smaller holders although most of the leases would be distributed to the local elites. Between 1766 and 1768, the monarchy decreed distribution of common lands to day laborers and small farmers. Common lands had long been arrogated in Britain, and church lands had been taken in the Reformation. In Spain the tracts of vacant lands, the baldios, remained extensive, nominally belonging to

the king but controlled often by town councils and thus by their wealthy landowners.

The church, of course, remained a major landholder, although the Jesuit order, caught up in politics and resented for its defense of indigenous communities in the Argentine interior, was expelled and its properties confiscated in 1768. The Spanish Gracchi—in this case Campomanes and his new recruit Joseph Moñino, Count of Floridablanca—had come to power . . . briefly. By the early 1770s the reformist initiative abated as officials quarreled and were reassigned. No ideologically driven disposal of Jesuit properties ensued—many were recycled for hospitals or municipal purposes.[82] But the reformist ferment continued. The Royal Basque Society of Friends of the Fatherland inspired Campomanes in 1765 to create the Royal Economic Society of Madrid in 1775, to which the Council of Castile sent a mass of files on economic conditions with the request that it produce a comprehensive plan for reform. The task languished for six years then was assigned to a twelve-man Special Junta for an Agrarian Law, headed by the up-and-coming young Gaspar Melchior de Jovellanos, who by the mid-1780s had become a convinced Smithian. The new Junta published the material collected on the countryside and began discussion of legislation in 1787. Unease at the revolutionary events beginning north of the Pyrenees led Floridablanca to back away from reform and reassign Jovellanos to his native Asturias as well as to dismiss Campomanes. But political winds shifted once again: Manuel Godoy, a progressive, succeeded Floridablanca while Jovellanos produced the major statement of Spanish agrarian reform, the Informe de la Sociedad Economica en el expediente de ley agraria.[83]

For Jovellanos as for Campomanes, the retarded agrarian structure followed from outworn social and political privileges, preeminently the monopoly rights over land held by the sheep owners grouped in the Mesta, and the laws of entail that impeded the formation of a robust farmer class. Agrarian legislation, argued Jovellanos, should be designed to prevent obstacles *(estorbos)* to production—assuming that "man was naturally active"[84] (§24, p. 8), but they had to be changed all of a piece if they were to succeed. The sale of the common lands would have little effect if the laws of entail allowed wealthy families and religious bodies to remove land from the market and thereby maintain it at a "scandalous price." Because it lacked entail and other protective legislation, Jovellanos argued, the fledg-

ling United States with only four million inhabitants had already managed to export large amounts of agricultural goods (§§154–156). Establish, therefore, a nation of yeoman farmers, and our "settlers will possess the social and domestic virtues that constitute the happiness of families and the true glories of state." But there were other intertwined obstacles. Any limitation of entail would avail little if the privileges of livestock grazing were preserved. The grazing rights enjoyed by the Mesta were exorbitant; Spain sacrificed its grain and its people to its sheep. Declare "the dissolution of this overmighty brotherhood, the abolition of its exorbitant privileges. . . . Let the seasonal migration of livestock enjoy [only] that just measure of protection that the laws owe to all branches of industry. If wool remains high in price, the grasslands will yield a high price without requiring odious privileges, while if farming promises a better profit, transhumancy [the seasonal grazing migration across the countryside] will also be reduced, and an equilibrium will be established" (§§139–140). "What purpose would enclosure serve if the system of protecting parcels and the privileges of livestock grazing persisted? What use would be irrigation if enclosure were not allowed? . . . The greater the evil, the more urgent the remedy . . . the issue is no less than one of opening up the prime and most abundant source of public and private wealth: of raising the nation to the highest summit of splendor and power and of leading the people confided to the care of Your Highness to the ultimate point of human felicity . . . it is a question of . . . restoring landed property and labor to its legitimate rights and of reestablishing the rule of justice" (§§422–423). Correct the abuses, aid in the repopulation of the deserted settlements of the South and Spain would become a land of virtuous smallholders: "Living with his family at the site of his labor," so Jovellanos indulged his idyll, the small proprietor, "can devote himself without distraction to his livelihood . . . husbandmen may exhibit dedication and thrift and produce the abundance that these qualities generate; then conjugal, paternal, filial and fraternal live will reign in their families; peace, charity, and hospitality will prevail; and our farmers *(colonos)* will possess the social and domestic virtues that constitute the happiness of families and the true glory of states."[85]

Small bits of the countryside were actually redeemed for agriculture and settled. It was easier, of course, to spin Physiocratic reveries in Jefferson's Virginia, where land was plentiful and monopolies not yet

established. What made partial reform at all possible in old Europe was the availability of Jesuit and Catholic lands that might go on the markets, but in some pockets secular landlords could still resist tenaciously. Certainly the viceroy of the kingdom of Sicily, Domenico Caracciolo (1780–1789), was as intelligent as the other reformers, but he could not succeed in his project of a cadaster and tax reform. "When I was relegated to this most remote corner of Christendom," Caracciolo wrote later, "my first thought from earliest arrival was to attack the radical vice that produced the people's misery, that is the unjust and tyrannical distribution of the taxes."[86] Sicily and Naples remained one kingdom, but with two different political systems, joined in a personal union by Charles of Bourbon, the same monarch who later reigned as the reformist Charles III of Spain. Mainland Naples bore the stamp of Spanish absolutism, and until the mid-1770s it had benefited from a skilled reformist prime minister, Bernardo Tanucci. The Francophile Caracciolo, who had thrived as ambassador in Parisian social and intellectual circles, was summoned to rule as viceroy in Palermo after 1780, but enjoyed decisive power only for the last three years of his life (1786–1789) as prime minister of the whole kingdom. A Neapolitan by birth, virtually exiled to the island capital dominated by a fossilized nobility, he had to confront his conservative predecessor as prime minister, Sicilian by birth, and a queen who, although a daughter of Maria Theresa, had no resolve to emulate the Austrian empress's reformism. The viceroy might govern Sicily in theory, but his policies required the assent of the king who would consult the "Giunta" of three leading island nobles and three Neapolitans.

Administration in Sicily lay largely in the hands of its great nobles whose unruly delegates convened every third year or so in an unreformed parliament of three "arms" or houses—the "military" estate, where 228 hereditary peers represented the 885 princes, counts, marquises, and barons; the ecclesiastic chamber; and the domainal arm, representing principally the cities, including Palermo, where many of the fractious nobles lived and indeed had indulged in a revolt in 1784. The normal budgetary procedure involved parliament voting a three-year gift on the proposal of the king and then splitting up the bill among the diverse estates. About 16 to 18 percent was assigned to the clergy and the nobility each, 10 percent to foreigners, 10 percent to the city of Palermo, and

46 percent or so to the domainal arm. It was estimated that the great feudatories paid approximately 7 percent of their revenues in taxes, while a household capitation and consumer excises threw the main burden on an immiserated peasantry and town commoners. The universities had decayed; the courts needed reform. Once Tanucci retired in his seventies from the Neapolitan cabinet, reformist spirit waned and the king grew passive; the influence of the queen, of her British lover and naval minister, Admiral Acton, and that of her mother's court in Vienna grew larger. From any reformer's viewpoint, Sicily was a territory from hell.

The freethinker intellectual Caracciolo, who, like his contemporary Thomas Jefferson, was truly at home in Paris, was named primarily to restore order to the fractious island whose intellectual currents reflected a British distrust of abstract intellectuals but lacked the stimulus of Britain's commercial society and scientific curiosity. Caracciolo had been ambassador while Turgot's ministry was in power; he consulted with Pompeo Neri, who had completed the catasto in Milan; as he later wrote to Acton, he believed that "the tax on land is the queen of taxes, the most just, and the most advantageous for the king and the least onerous for the state. There are big things to do in Sicily."[87] He developed a plan for a cadastral reform akin to that pushed through in Milan. But he would have needed a monarch who gave him the same power that Maria Theresa had reposed in Neri. This was the lesson that Pietro Verri had drawn: the tax reform in Lombardy could never have been accomplished had there been a senate of local notables; reform required legal despotism to establish the felicity of the people.[88]

The new viceroy had some remarkable successes. He suppressed the Inquisition, taking its properties and burning its records; he dissolved the seventy-four gilds that were a source of recurrent demonstrations and rebellions, but he had his plans to shorten Palermo's raucous and costly Saint Rosalia holiday from five to three days reversed by Naples. His grand plans for tax reform were slowly paralyzed. Caracciolo personally appeared before the 118th Sicilian parliament in May 1782, asking for a new census (the last count dated from 1748), a fresh assessment of properties, and a different distribution of taxes. There followed a week of debate; the tax was approved, but the idea of shifting the burden or initiating a new census and assessment was accepted only by the towns of the domainal arm that bore almost half their burden while it was rejected by the military

and ecclesiastical "arms." Their parliamentary votes, however, were nonbinding, and Caracciolo recommended to the king that he proceed with a cadaster on the basis of the third estate's positive vote. The monarch instructed him to propose the modalities of the land survey but postponed a final decision. Caracciolo's political sense failed him, and he transmitted further requests via Acton, who essentially delayed and buried them under the excuse that officially they had to come from the Giunta of Sicily. The viceroy persisted in urging the proposed cadaster as a panacea for the island's ills: "This is the epic of regeneration for Sicily, the greatest cause and perhaps the most serious in the happy reign of Ferdinand IV. What is needed now is a sovereign act of supreme political economy *(alta economia di stato)* and a grand remedy for Sicily's public welfare."[89]

But the viceroy in Palermo remained remote from the court in Naples, vulnerable to the machinations of the intervening officials, and opposed by the barons entrenched in the constitutional delegations and Giunta. The catastrophic earthquake of February 5, 1783, in Messina just across the straits in Calabria, which left 30,000 dead in a zone of 400,000 inhabitants, allowed the island's Giunta to propose a special parliamentary session that would offer a "free gift" of 400,000 scudi (less exemptions) if the plans for the land survey were dropped. As Caracciolo himself had to recognize, the offer seemed like an extraordinarily generous public response; however, it was a gift that spelled disaster for his hopes of a new cadaster. The domainal chamber, supported by the viceroy's public statement, demanded that the 400,000 scudi gift be collected equally from the three estates, a demand supported by town delegations across the island. But the parliamentary delegation that spoke for the chambers between sessions denounced the move, and on July 3 the king wrote to say that he accepted the donation, but that the domainal arm's effort to lower its share was "irregular and capricious," and the gift must be allocated as the two upper chambers demanded. Caracciolo recognized that this spelled the end of plans for tax reform: "a million and a half souls remain condemned by the cupidity and ambition of about 70 baronial families."[90]

The earthquake had further social ramifications. Faced with heavy expenses for aid and rebuilding, the Naples court established a special institution in 1784, the Cassa Sacra, to raise funds for relief and recon-

struction by administering and selling off the ecclesiastical properties of Catanzaro and Reggio in Calabria. The baronial and wealthy classes of Calabria seized the chance to buy these properties before the Cassa, managed inefficiently and in debt, was dissolved on the eve of the Neapolitan revolution of 1798. The result was to consolidate the holdings of a new landlord elite (what counted for a southern *borghesia*) freed from many of the common customs that had softened the old property relationships and to confirm an even more dependent status for peasants and tenants,[91] As a critic wrote acutely in 1789 about the reasons for the degradation of the province since the earthquake: despite the government's significant aid, "instead of reviving from its misery Calabria becomes poorer and more desolate every day." The major part of the territory remains in the hands of a few citizens "who oppress the rest of the nation who must become their servants and their hired hands to survive." Or, as another critic wrote, the Cassa Sacra was not an agent for Calabria's recovery but rather its further ruin.[92] Its impact, wrote Vicenzo Cuoco, the historian of the Neapolitan revolution of 1798, was worse than the earthquake, or as even the confessor of the king publicly recognized, it was thought of as "the *second calamity* of Calabria and perhaps worse than the first."[93] Nor were the sales of land finished. From 1806 to 1815 the French rule of the Neapolitan mainland brought the auction of convents and monasteries throughout the kingdom. On the one hand, the transfers fulfilled Enlightenment precepts and helped consolidate the commodification of the Catholic countryside; on the other, the new market order meant further exclusion of the marginalized rural classes.

Looking at France, Spain, and Italy, it is tempting to conclude that the vision of a market-oriented agrarian order was attractive in lands where the Catholic Church and an entrenched nobility had accumulated privileges; where industry and commerce played less of a role than agriculture; and where political concepts, often of Roman inspiration, remained more utopian than in commercial and Protestant realms, where land had long been on the market and the advance of trade motivated political and economic analysis. In fact the persuasiveness of agrarian doctrines, if not the Physiocratic analysis strictly speaking, was more general. In the United States, the program appealed to the emerging Jeffersonian party. Even earlier, agrarian preferences fit in with the colonists' growing distrust of England and their reaction to its mercantile legislation

that tried to restrict independent trade. Benjamin Franklin, for instance, had fallen under French Physiocratic influence during his stays in Europe in the 1760s, and as conflict grew with London after 1763, he became sharply critical of Britain's manufacturing vocation, which he thought responsible for much of the poverty of its workers. He wrote to Lord Kames in 1769 that nations could acquire wealth by war and plunder, by commerce, "which is generally Cheating," or "by *Agriculture* the only *honest Way;* wherein Man receives a real Increase of the Seed thrown into the Ground, in a kind of continual Miracle wrote by the Hand of God in his Favour, as a Reward for his innocent Life, and virtuous Industry."[94]

Certainly North American opinion did not unanimously reject commerce. John Adams did not believe that his countrymen would resist the charms of luxury and fashion; every man aspired toward distinction.[95] The American republic would be an active commercial power, Ezra Stiles enthused. "Navigation will carry the American flag around the globe itself; and display the thirteen stripes and new constellation at *bengal* and *canton,* on the *indus* and *ganges,* on the *whang-ho* [Huangho or Yellow River] and the *yang-tse-kiang* [Yangtze]," bringing knowledge of the world back home.[96] Commerce would allow Americans to export their agrarian surpluses. The difficulty, however, of penetrating foreign markets in the mid-1780s after independence produced a debate on trade, and the reassertion by some of the need for a Spartan agrarian simplicity. For New Englanders and merchant spokesmen elsewhere, rude and virtuous isolation seemed an unrealistic and unappealing vocation—the realization came with the growing sense, too, that the new republic needed a cohesive state able to compete in a world of contending empires.[97]

Still, in the first decade of the fledgling federal republic, James Madison and Alexander Hamilton drew competing conclusions for economic orientation. For Madison and like-minded Americans, manufacturing was associated with the production, not of the necessities that every household might need, but of luxuries. Precisely the conditions that the Physiocrats yearned for in Europe but existed in the new United States—the abolition of privilege, the opening up of land—made an agrarian alternative easy to contemplate. But American agriculture, efficient and vigorous, still needed export markets, and Britain closed its markets and those of the nearby West Indies. Madison argued that it was practical to

pry open British trade because her economy supposedly required American commodities more than the United States required British luxuries. Hamilton believed the program misconceived: the manufacturing nation had the greater leverage, and he wanted British capital as an essential component of a national financial system that through the instrumentality of a sound national debt would weave together public and private interests. Madison in short wanted to reject the British model; Hamilton wanted to reproduce it. Early financial developments hardly confirmed the wisdom of either side in the debate, Hamilton established his new Bank of the United States in 1791, but a panic in March 1792 seemed to discredit the initiative. Hamilton, though, prevailed in 1794: Madison's program of discriminatory tariffs against Britain was rejected and Jay's Treaty precluded such tariffs for a decade. On the other hand, the early venture-capital establishment, the Society for Establishing Universal Manufactures, with which the treasury secretary was associated, clamorously collapsed in 1795, and with it Hamilton's aspirations for state-funded industrial development were also set back. This did not foreclose an era of capital and commerce; American exports and American shipping thrived in the next eight years before the British-French wars began to squeeze neutral goods and crews.[98]

Hamilton had little motivation to encourage westward expansion: the East Coast was where the labor supplies were and manufacturing would be sited, not the plentiful land of the interior. Madison and Jefferson, however, contemplated a national territory that might reach continental proportions. The Democratic-Republican agrarian strategy also rested on Jeffersonian partiality toward the French republic in the Anglo-French global rivalry (tested though it would be by the XYZ Affair and the clumsy diplomacy of Citizen Genêt). The British sought to slow down the Americans' control over their vast hinterland—an effort temporarily crowned by the concessions they extracted in Jay's Treaty in 1794, but one ultimately nullified by Jefferson's Louisiana Purchase of 1803, in which France in effect provided the territorial rights needed to make the agrarian program plausible in the Americas. America's capacious territory would form the basis for what Jefferson contemplated as an "empire of liberty"; as Franklin and the French economists had argued fifty years earlier, the land remained the underlying source of national wealth. Territorial expansion, advocates claimed, could forestall political degeneration, averting

Britain's social divisions and impoverishment of labor.[99] Although the future peril of an emerging urban proletariat remained vivid, the two peoples who would actually pay the cost of expansion—Native Americans and slaves—were not reckoned as part of the human calculus. It was critical that the land and sovereignty—territory as a political and economic resource—remained in the control of the new country's own political classes.

Although Britain progressively lost the colonies between the West Indies and Canada after the 1760s, it simultaneously acquired an Indian empire—hardly vacant land but nonetheless a realm where Physiocratic precepts seemed to provide policy guidelines as they did on the crowded and stratified European continent. As Smith's skepticism revealed and subsequent commentators have pointed out, it was hard to countenance the Physiocratic argument in bustling Britain.[100] Thus it seems initially surprising that the ideas had so much appeal in British-controlled Bengal, where they motivated the governor general, then George Lord Cornwallis, responsible for the military debacle at Yorktown twelve years earlier, to decree a tax freeze—"the permanent settlement" on behalf of the proprietors of land and their tax-farming intermediaries, the zamindars as of 1793: "They and their heirs and lawful successors will be allowed to hold their estates at such assessment for ever."[101]

The intent was to stabilize a class of gentry willing to invest in a productive agriculture, but the result was to entrench a system of grinding down peasant tenants. How did the policy go so awry? The founding historian of "subaltern studies," Ranajit Guha brilliantly analyzed the unlikely and perhaps disastrous influence of Physiocratic or market-based tenets on British India fifty years ago. Following Clive's victory at Plassey, the East India Company acquired the Mughal right of *diwani* or financial administration in 1765 and had to make sense of the complex Mughal Indian land systems. The first British expedient of selling five-year leases (the so-called farming system) proved disastrous; there was no check on the demands of the zamindari vis-à-vis their cultivators or *ryots,* and no incentive for long-term improvement. Impoverishment of the villages seemed to follow quickly to be culminated by a devastating famine in 1770. Short-term revenue farming seemed at the root of the catastrophe: the new colonial regime, junior British officials who had to deal with the famine-devastated districts suggested, had surrendered too many of the Mughals' rights of proprietorship to the landlords who leased from

the British and collected oppressive rent from the villages they were granted. They advocated permanent rental of small holdings to the principal cultivators of the villages, thereby encouraging a class of midsize landholders. Such a plan did not suit the interests of the British and Indian speculators of Calcutta nor the clique around the governor general, Warren Hastings.[102] The alternative reform foresaw transforming the zamindari from a decaying class of rent collectors into agricultural investors. Motivated by such a vision, Philip Francis, a member of the Supreme Council of Bengal and an enthusiast for French economic ideas, proposed a plan of "permanent settlement" in 1776 that would confirm the zamindari as outright owners and encourage their investments by letting the new proprietors know "once and for all" how much they were to pay the British government.[103] Oversimplified analogies with Britain played a role in this policy vision. The retention of ownership by the political sovereign, it was argued, was the essence of feudalism and associated with the backwardness of France and Scotland before the union of 1703. Conversely, the robust agrarian constitution of eighteenth-century England supposedly rested on the fact that the narrow class of ultimate proprietors leased lands for life or long-term to a class of gentry farmers who had invested in the improvement of properties they saw in effect as their own. The rulers of British India must build on zamindari tenure in an analogous manner.

No scheme of agrarian democracy was at stake. Although Francis was an enthusiast for the Physiocrats' emphasis on generating surplus in the countryside, he was unwilling for the state to intervene in the way that the Habsburg officials sought to do in Milan. Whether Neri in Italy or Turgot in France, state reformers felt they must eliminate the differential privileges of status when it came to taxes. The premise of their reforms was determining the potential value of the land. Francis drew the opposite conclusion from the Habsburgs or continental tax reformers: there must be no systematic cadastral survey—the British had the right to tax only what they needed, not to determine what the land might pay. The ryots or cultivators were not a class that the empire was to deal with directly; the zamindari would come to their own terms with them.[104]

European rulers on the continent understood that they must protect their tenants from their powerful aristocratic landlords if only not to lose control of their own revenues. London and the East India Company

were running a distant empire that was supposed to yield a profit. Francis believed that in India the rulers had to enhance the power of the magnates—providing them economic incentives to improve their holdings. What resulted, however, was hardly the formation of an English gentry or even the growing surplus and "net product" described by the reforming economists whom Francis read, but rather the reduction of peasant cultivators to chronic debtors and agricultural laborers—the rank exploitation that characterized such districts as Mecklenburg and east Central Europe. Other British or East India Company officials distrusted the idea of entrusting the zamindari with the prosperity and happiness of India; many of the smaller agrarian entrepreneurs who had taken leases after 1765 deserved to be confirmed in their tenure. But how should one sort out the virtuous farmers from the interests that Warren Hastings's corrupt interval had fostered? And an empire, especially an empire that was not to be settled by British colonists, demanded an interlocutory class of magnates.

Although Francis's ideas were rebuffed after 1776, they made a comeback. Thomas Law, the officer in charge of Bihar, argued in 1789, "The basis of prosperity is laid by fixing the land tax." Take away the zamindars' judicial prerogatives—which were an example of "feudalism," but confirm that the "Zamindar is indisputable proprietor of the soil and [the] Ryot but a vassal or peasant."[105] When Lord Cornwallis arrived, a few years after his defeat in America, he reintroduced the idea of the generous permanent settlement, that is, the freeze on taxes. He, too, saw the justification of wagering on an aristocratic zamindar class in the stimulus to agriculture. "The grant of these lands at a fixed assessment will stamp a value upon them hitherto unknown. . . . There is every ground to expect that the large capitals possessed by the natives . . . will be applied to the purchase of landed property as soon as the tenure is declared to be secure, and they are capable of estimating what profit they will be certain of deriving from it, by the public tax upon it being unalterably fixed."[106] The new owners would invest in wells and aqueducts and the manufacture of raw materials, such as cotton, to be exported to Britain for textile production that might then find an Indian market.

The result, of course, was not what had been so rosily predicted. No reform of the countryside followed. Nor did commerce benefit. Unlike Quesnay, Francis did not believe that manufactures were eco-

nomically "sterile"; nevertheless, land was the basis of wealth and commerce, and industry prospered in the shadow of agriculture. Moreover, the burgeoning British cotton industry did not want competition from Indian calicoes. What really mattered was the management of India's agriculture and manufacture for an imperial establishment.

But the rural desolation that resulted from misplaced emphasis on market incentives had more general causes. Physiocratic concepts and market based reforms in the eighteenth century addressed the problems of bequeathed by archaic taxes and "feudal" restrictions on entrepreneurship, but they had little to say about dependent labor as such. Instead, two policy visions worked to distort the actual impact of reforms on those who labored on the land. For Quesnay and the British administrators of Bengal, the agrarian investor—the leaseholder or owner and the employer or landlord of the rural laborer—was the crucial protagonist. This class of agricultural entrepreneurs, whether a reformed zamindari or the British gentry, were the "change agents" of the countryside. For agrarian enthusiasts such as Jovellanos and Jefferson, the cultivator himself was the critical agent. In achieving his destiny as a yeoman peasant, living with his family in domestic bliss, enjoying the salubrious influence of the countryside, the cultivator would be the molecular unit of prosperity.

In different ways, Jovellanos and Jefferson counted on vastly expanded access to land. For Jefferson the vast size of the American "empire of liberty" guaranteed plentiful land. For Jovellanos and other reformers the removal of encrusted monopolies, antique collective privileges, and since the late 1760s access to church properties provided the land that allowed the farmer to prosper. Neither France nor Bengal had such reservoirs of territory, and as a result the emphasis had to be on the fiscal policies and the opening of the market that would permit progress. Capitalist incentives, not territorial abundance, were crucial, whereas Jefferson and Jovellanos retained a precapitalist faith. Their market thinking remained more partial. With lands in the New World—and a population of slaves or Indians—the transformative impulse did not have to focus on the role of the agrarian bourgeoisie as such. In effect, the need was to liberate land, and the liberation of labor would follow eventually and bloodlessly by itself. This expectation proved as illusory as the belief that total marketization would bring painless growth, which characterized the other strand. We come to the underlying deficiency that Marx emphasized

in his respectful but critical reading of the Physiocrats. We need not agree with Marx that labor was the sole source of surplus any more than with the Physiocrats, who believed that the bounty of land provided its exclusive source. But Marx did point out that it was utopian to believe that territory, no matter how fertile or extensive, was the only motor of growth. Labor alone (as Locke had already pointed out) unlocked the potential of the land. However, the capacity to harness labor to the land—call it the social constitution of the countryside—fell into crisis at the end of the eighteenth century. Governing within borders, farming within boundaries produced the surplus of the countryside only when labor remained within borders. Understanding these problems as contemporaries confronted them requires closer examination of the labor conditions that persisted and plagued the agrarian world from the late eighteenth century to the mid-nineteenth century.